

IDIS Planetary Atmospheres Node

at
IPSL Data Centre

Alain Sarkissian





ATMOSPHERE



Contributions

Coordinators: Alain Sarkissian and Eric Chassefière

3 SC leaders, 3 SC co-leaders, 60 experts from the 3SCs, 12 countries, 20 labs: more than 70 Emails, several phone calls, discussion during meetings, etc

IPSL Technical staff : 5 weeks, set-up and hardware

Technical staff: 6 month; students 1,5 month
informatics, design, software, web search,
bibliography, updates, etc...

Related Activities

- Presented at more than 5 workshops, meetings, etc..
- Collaboration with VO (meetings, tutorial, science cases, interoperability meetings)
- Participation to VO-Paris Data Centre (OBSPM)
- Participation to next IPDA meeting (July 2008, Montréal, Canada) and COSPAR
- Participation to EPSC 2008
- VO-Planeto workshop (national) in Novembre 2008



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Introduction to the thematic nodes of IDIS

This website is dedicated to the thematic field of Atmosphere as part of the Integrated and Distributed Information Service (IDIS) developed during the EUROPlaNet Project. In General the IDIS System is divided into four thematic nodes and one technical top node.

The EuroPlaNet IDIS thematic science node "Atmosphere" is hosted by the **Centre de données of the Institut Pierre Simon Laplace (IPSL)** and is established in close cooperation with the **Service d'Aéronomie**.

The four EuroPlaNet IDIS thematic science nodes (Planetary Surfaces and Interiors, Atmospheres, Plasma Science and Small Bodies) are dedicated to open a web window to the status of solar system research and provide an effective information management system for scientists and interested persons about solar system knowledge, databases and scientific tools.

The main aim of the Atmosphere node will be to:

- support collaborative work in the field of Atmosphere
- provide information about data bases and scientific tools in this field
- establish an scientific information management
- define and develop Science Cases regarding IDIS

Actually the specific **science cases** related to Atmosphere are under construction:



- Science case 2.1 : Titan Ion Chemistry
- Science case 2.2 : Spectro of CH4
- Science case 2.3 : Spicam + GCM
- Science case 2.4 : Super-Rotation

Contact addresses for this IDIS node:

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SC 2.4 : Super-Rotation

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Science Case 2.1 : Problem description

- CASSINI/INMS observations of Titan upper atmosphere indicate the presence of ion and molecules which were not expected:
 - which are the key ion-neutral reactions?
 - what are the roles of transport and dynamic?
 - which is the main driver: photons, electrons...?
- Coupling of a complex chemistry model with even 1D transport model is difficult: it is essential to identify key reactions to mimic the composition of Titan ionosphere. Studies of sensitivity are the methods to do so. We need to integrate reaction rates... and their measurement uncertainties.

Files

Presentation Berlin 2006	PPT
Titan Chemistry Nov2007	PPT

Science Cases

SC2.1 First priority, nearly completed, some improvements to be made soon, need input from N2 and experts for demonstrator/tool/web service (for FP6 or for FP7)

SC2.2 Second priority, well advanced, but no more effort (unless proposition by N2 or leaders)

SC2.3 not a priority but proposed demonstrator/tool/web service can be extended to other SCs: 3D visualisation tool with VO concept

SC2.4 stopped at this stage, need leader

Update of resource inventory

SC2.1 done, SC2.2 to be completed, SC2.3 nearly completed

Technical issues

Sun station: 7 year old

Recent Technical problem: 1 month out of order, station to be rebooted every 1/2 hour, now sorted out

Mirror of PAN Node ? New machine ?

Manpower

Technician for 3 month for September-December 2008 in collaboration with VO-Paris data centre, to work on demonstrator/tool/web service SC2.1 or SC2.3

Inputs from N2-N7 workshop

Caution for error bars in SC2.1

Newsletter Nasa (for all Nodes ?)

Atmospheres of exoplanets: for FP7

Next to come before end of contract

Finalise Resource inventory, but some resources are not so clear: experts list, working group, etc.

Finalise SC2.1

Update the link (CNES) or direct to MAPS ?

Demonstrator/tool/web service SC2.1 or SC2.3 ?